



# SZABO SCANDIC

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## Produktinformation



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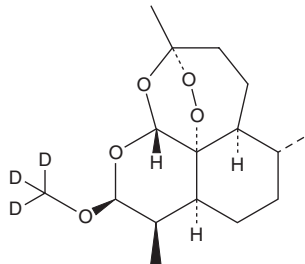


# PRODUCT INFORMATION



## Artemether-d<sub>3</sub> Item No. 28517

**CAS Registry No.:** 93787-85-0  
**Formal Name:** 3R-(3 $\alpha$ ,5 $\alpha$  $\beta$ ,6 $\beta$ ,8 $\alpha$  $\beta$ ,9 $\alpha$ ,10 $\alpha$ ,12 $\beta$ ,12 $\alpha$ R)-decahydro-10-(methoxy-d<sub>3</sub>)-3,6,9-trimethyl-3,12-epoxy-12H-pyrano[4,3-j]-1,2-benzodioxepin  
**Synonym:** (+)-Artemether-d<sub>3</sub>  
**MF:** C<sub>16</sub>H<sub>23</sub>D<sub>3</sub>O<sub>5</sub>  
**FW:** 301.4  
**Chemical Purity:**  $\geq 98\%$  (Artemether)  
**Deuterium Incorporation:**  $\geq 99\%$  deuterated forms (d<sub>1</sub>-d<sub>3</sub>);  $\leq 1\%$  d<sub>0</sub>  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:**  $\geq 2$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Artemether-d<sub>3</sub> is intended for use as an internal standard for the quantification of artemether (Item No. 11815) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Artemether-d<sub>3</sub> is supplied as a solid. A stock solution may be made by dissolving the artemether-d<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. Artemether-d<sub>3</sub> is soluble in chloroform and methanol.

### Description

Artemether is an antiparasitic agent and a derivative of artemisinin (Item No. 11816).<sup>1</sup> It induces mortality in adult wild-type and *pfatp6*-mutant *P. falciparum* but the efficacy is decreased in the mutants (IC<sub>50</sub>s = 8.2 and 13.5 nM, respectively).<sup>2</sup> Artemether reduces parasitemia in *P. falciparum*-infected monkeys and *P. berghei*-infected mice with 50% curative dose (CD<sub>50</sub>) values of 7.1 and 55 mg/kg, respectively.<sup>3</sup> It also reduces the worm burden of *S. mansoni* trematodes in mice when used at doses ranging from 200 to 500 mg/kg.<sup>1</sup> Formulations containing artemether have been used in the treatment of malaria.

### References

1. Xiao, S.H. and Catto, B.A. In vitro and in vivo studies of the effect of artemether on *Schistosoma mansoni*. *Antimicrob. Agents Chemother.* **33**(9), 1557-1562 (1989).
2. Pillai, D.R., Lau, R., Khairnar, K., et al. Artemether resistance *in vitro* is linked to mutations in PfATP6 that also interact with mutations in PfMDR1 in travellers returning with *Plasmodium falciparum* infections. *Malar. J.* **11**, 131 (2012).
3. Shmuklarsky, M.J., Klayman, D.L., Milhous, W.K., et al. Comparison of  $\beta$ -artemether and  $\beta$ -arteether against malaria parasites in vitro and in vivo. *Am. J. Trop. Med. Hyg.* **48**(3), 377-384 (1993).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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